REMARKS

As a preliminary matter, Applicant thanks the Examiner for the thorough examination of the present application as evidenced in the Office Action dated March 2, 2009. The present Amendment and Response is responsive to the Office Action dated March 2, 2009. Claims 1-21 remain pending with claims 1-21 being amended. The claims have been amended as described below in the sections entitled "Objections to the Claims", "Claim Rejections under 35 USC §102" and "Claim Rejections under 35 USC §103".

Claim Rejections under 35 USC §102

The Office Action rejected claims 1-2, 5-7, 11-18 and 20 under 35 USC §102(e) as being anticipated by Li (US Pub. No. 2006/0182119 A1). Since Li does not disclose or suggest each and every element of the Applicant's claimed invention, the claims are patentably distinguishable from the cited reference. Thus, the claim rejections under 35 USC §102(e) should be withdrawn.

As per claim 1:

a) As for the technical feature "creating individual QoS resource list in each edge router to record the resource states corresponding to a path" in claim 1, the Applicant submits that this feature is not disclosed by Li (US Pub. No. 2006/0182119 A1).

According to the Office, Li discloses "said resource request message passing through the ingress edge router of each QoS domain and the egress edge router of each QoS domain in turn, adding the edge router ID of each passed QoS domain in the edge router list of the resource request message ... storing said edge router list in the QoS edge router connected with the destination terminal of the data flows ... the QoS edge router determining the resource allocation path according to the stored edge router list ... judging the condition of resource reservation for aggregate flows between the passed QoS edge router and adjacent QoS edge router, performing necessary adjustment." (See pages 3, paragraph 0040 & 0044 in Li).

Obviously, in Li, the edge router list mentioned above is used to record **the edge router ID** of each QoS domain which said resource request message passed through. And the edge

router list is used to **determine the resource allocation path** by the QoS edge router receiving the resource allocation message.

In contrast, in claim 1, the QoS resource list in each edge router is used to record a **resource state** corresponding to a path and **assign resources** to a user terminal.

Thus, the edge router list in Li is not analogous to the QoS resource list in claim 1.

b) As for the technical feature "said each edge router assigning resources to a user terminal which makes a request based on said QoS resource list and updating the QoS resource list", the Applicant submits it is not disclosed by Li.

In the Office Action, the Examiner states that Li discloses "the last QoS edge router, which receives the resource allocation message, allocating resources between the destination terminal and the QoS edge router ... when the resource allocation message passing through each QoS edge router, checking the adjacent QoS edge router ID in the edge router list, and judging whether there are enough resources between the QoS edge router and the adjacent QoS edge router." (See pages 3, paragraph 0046–0047 in Li).

In Li, the edge router assigns resources to a user terminal according to the **resource allocation message**. The resource allocation message is initiated in the destination terminal, and transmitted along the determined resource allocation path.

In contrast, in claim 1, the edge router assigns resources to a user terminal according to the QoS resource list. However, the QoS resource list is created in each edge router and can not be transmitted to others, because the QoS resource list in each edge router records resource states corresponding to a path.

Thus, the resource allocation message in Li is not analogous to the QoS resource list in claim 1.

Based on (a) and (b), in Li "edge router assigning resources to a user terminal according to the resource allocation message" is not analogous to the subject matter of claim 1, "edge router assigning resources to a user terminal according to the QoS resource list", and "creating individual QoS resource list in each edge router to record the resource states corresponding to a path." These limitations are not disclosed in Li.

Therefore, Li does not disclose the features of claim 1 and the claim should be allowed.

As per claim 16:

As stated above, independent claim 1 complies with the requirements of novelty. Claim 16 is an apparatus implementation of the method claimed in claim 1 and comprises all the elements of claim 1.

For the reasons discussed with respect to claim 1 above, Li fails to disclose or suggest each and every element of claim 16. Therefore, claim 16 should be allowed.

As per claim 6:

The Applicant has amended claim 6 by incorporating the features "comparing available resources of the requested resources corresponding to the path recorded in said QoS resource list with bandwidth resources requested in said resource request."

a) As for the technical feature "available resources of the requested resources corresponding to the path recorded in said QoS resource list" in the amended claim 6, the Applicant submits it is not disclosed by Li.

As noted with respect to claim 1 above, Li fails to disclose or suggest "individual QoS resource list in each edge router to record the resource state corresponding to a path", thus "available resources of the requested resources corresponding to the path recorded in said QoS resource list" is not disclosed by Li.

b) As for the technical feature "comparing available resources of the requested resources corresponding to the path recorded in said QoS resource list with bandwidth resources requested in said resource request," it too is not disclosed by Li.

The Office asserts that Li discloses "the last QoS edge router, which receives the resource allocation message, allocating resources between the destination terminal and the QoS edge router ... when the resource allocation message passing through each QoS edge router, checking the adjacent QoS edge router ID in the edge router list, and **judging whether there are enough resources between the QoS edge router and the adjacent QoS edge router**." (See pages 3, paragraph 0046–0047 in Li).

While Li does disclose the concept of "judging whether there are enough resources between the QoS edge router and the adjacent QoS edge router," it fails to discuss how to judge whether there are enough resources in detail.

Claim 6 indicates a specific manner of doing so, namely: "comparing available resources of the requested resources corresponding to the path recorded in said QoS resource list with bandwidth resources requested in said resource request." Thus, Li fails to disclose the relevant features of claim 6.

In another aspect, considering the argument (a) QoS resource list is absent in Li, it is inevitable that Li fails to disclose "comparing available resources of the requested resources corresponding to the path recorded in said QoS resource list with bandwidth resources requested in said resource request" as well.

Therefore, the Applicant submits that Li does not disclose the features of claim 6. Thus, claim 6 is allowable.

As per claim 12:

As for the technical feature "an ingress edge router receiving a resource releasing request from a user terminal; said ingress edge router releasing the resources occupied by said user terminal; and said ingress edge router modifying its QoS resource list which records resource state corresponding to a path" in claim 12, the Applicant submits it is not disclosed by Li.

It is asserted by the Office that Li discloses "the source terminal APP1 initiating a resource request message ... the edge router R1 directly connected with source terminal APP1 interacting with the policy server PS1 to judge whether the request can be accepted; if the request is rejected, returning a request failure message; if the request is accepted, determining that the aggregate flow ID is DSCP2 ... then checking whether there are enough resources for aggregate flow DSCP2 between the source terminal APP1 and the request router R1; if the resources are not enough, returning a request failure message; otherwise adding R1 ID in the QER list of the resource request message and forwarding the resource request message ... at the edge router R3, since the message enters into a new QoS domain, the edge router R3 interacting with the policy server PS2 of QoS-AS2 to judge whether to accept the resource request; if the request is rejected, R3 returning a resource request failure message; otherwise R3 forwarding the request message." (See pages 8, paragraph 0171, 0172 & 0174 in Li).

It is clear from this text that Li merely discloses an ingress edge router receiving a resource request message. In contrast, claim 12 requires an ingress edge router receiving a

resource releasing request. A person having ordinary skill in the art would understand that the resource request message in Li is not analogous to the resource releasing request in claim 12.

b) Based on a), Li discloses receiving resource request message, Li must concentrate on the process of judgment and determination of the edge router R1 according to the resource request message, such as checking the resources for aggregate flow DSCP2. But Li obviously fails to discuss the release of the occupied resource DSCP2. In contrast, claim 12 requires said ingress edge router releasing the resources occupied by said user terminal.

c) Based on the remarks made with respect to claim 1 above, it is realized that "QoS resource list which records resource state corresponding to a path" is absent in Li. In addition, Li also fails to disclose the feature "modify the QoS resource list." Thus, Li fails to disclose "said ingress edge router modifying its QoS resource list which records a resource state corresponding to a path" in claim 12.

Therefore, Li does not discloses the features of claim 12 and claim 12 is allowable.

As per claims 2, 7, 13 and 17:

As for the technical feature "the resource states of the paths from the edge router to all the other edge routers in the same domain are recorded in said QoS resource list" in the claims 2, 7, 13 and 17, the Applicant submits it is not disclosed by Li.

The Office asserts that Li discloses "a QoS edge router, which is located at the edge of the QoS domain, connected to the source, destination of data flows or other QoS domains, responsible for establishing resource reservation path for aggregate flow generated from the data flows among QoS domain and in the QoS domain, and maintains the state of the aggregate flow." (See pages 2, paragraph 0029, in Li).

Obviously, in Li, the QoS edge router is responsible for establishing a resource reservation path and maintaining the state of the aggregate flow. Neither **the path** nor **the state of the aggregate flow** in Li is analogous to the **resource state of a path**. Thus, Li fails to disclose "the resource states of the paths are recorded in said QoS resource list."

The resource state of a path is the path from the edge router to all the other edge routers in the same domain, which Li does not discuss either. Thus, Li fails to disclose "the resource states of the paths from the edge router to all the other edge routers in the same domain are recorded in said QoS resource list."

In claim 1, it is the QoS resource list in each edge router that is used to record the resource state of the paths from the edge router to all the other edge routers in same domain.

Therefore, the Applicant submits that Li does not disclose the features of claims 2, 7, 13 and 17 in the present invention. Thus, claims 2, 7, 13 and 17 are allowable.

As per claim 5:

As stated above, independent claim 1 complies with the requirements of patentability. Thus, Applicant respectfully submit that dependent claim 5 is also in conformity with the provisions of patentability.

As per claim 11:

As stated above, independent claim 6 complies with the requirements of patentability. Thus, Applicant respectfully submit that dependent claim 11 is also in conformity with the provisions of patentability.

As per claims 14-15:

As stated above, independent claim 12 complies with the requirements of patentability. Thus, dependent claims 14-15 are also in conformity with the provisions of patentability.

As per claims 18 and 20:

As stated above, independent claim 16 complies with the requirements of patentability. Thus, dependent claims 18 and 20 are also in conformity with the provisions of patentability.

Claim Rejections under 35 USC §103

The Office Action rejected claims 3-4, 8-10, 19 and 21 under 35 USC §103(a) as being unpatentable over the combination of Li and Matsubara (US7215640).

As per claim 1:

As discussed above, Li does not discloses the following feature of claim 1: "QoS resource list to record resource state corresponding to a path." In addition, "said each edge router assigning resources to a user terminal which makes a request based on said QoS resource

list and updating the QoS resource list" is absent in Li. Thus, there are major differences between Li and claim 1. The deficiencies of Li are not cured by Matsubara. In other words, Matsubara does not disclose the features that are missing in Li.

The combination of Li and Matsubara cannot solve the technical problem to be solved by the technical solution of claim 1: the scheme for realizing QoS guarantee in prior art requires each router to reserve lots of resources and cannot use a resource list to record a resource state corresponding to a path.

Li and Matsubara can not serve as the basis on which technical teaching is brought to the technical solution of claim 1. It is obvious that a person having ordinary skill in the art can not obtain the technical solution of claim 1 in the present invention without creative work. Therefore, claim 1 of the present invention is non-obvious compared to the combination of Li and Matsubara, and conforms to 35 USC §103(a).

As per claim 16:

As stated above, indepcndcnt claim 1 complies with thc requirements of non-obviousness. Claim 16 is an apparatus implementation of the method claimed in claim 1 and comprises all the elemcnts of claim 1.

Accordingly, for reasons similar to those discussed above, the combination of Li and Matsubara can not serve as the basis on which technical teaching is brought to the technical solution of claim 16. Therefore, Applicant respectfully submits that claim 16 conforms to the provisions of patentability.

As per claim 6:

As discussed above with respect to the Section 102 rejections, Li does not discloses a "QoS resource list to record a resource state corresponding to a path" as required in claim 6. In addition, the limitations "comparing available resources of the requested rcsources corresponding to the path recorded in said QoS resource list with bandwidth resources requested in said resource request" is absent from Li.

Therefore, the combination of Li and Matsubara does not meet all the limitations of the claim and cannot solve the technical problem to be solved by the claim, namely: using the QoS resource list to determine the resource request.

The Applicant submits that the combination of Li and Matsubara can not serve as the basis on which technical teaching is brought to the technical solution of claim 6. A person having ordinary skill in the art can not obtain the technical solution of claim 6 without creative work. Therefore, claim 6 is non-obvious compared to the combination of Li and Matsubara, and conforms to 35 USC §103(a).

As per claim 12:

As discussed above with respect to the Section 102 rejections, Li does not discloses a "QoS resource list to record a resource state corresponding to a path." Additionally, "an ingress edge router receiving a resource releasing request from a user terminal; said ingress edge router releasing the resources occupied by said user terminal; and said ingress edge router modifying its QoS resource list which records a resource state corresponding to a path" is absent in Li. Since Matsubara does not disclose these features either, the combination of Li and Matsubara does not disclose the claimed subject matter and cannot solve the technical problem to be solved by the technical solution of claim 1; namely: the scheme for realizing QoS guarantee in the prior art lacks reclaiming the occupied resource and facilitates resource re-use with good flexibility and high efficiency.

The Applicant submits that the combination of Li and Matsubara can not serve as the basis on which technical teaching is brought to the technical solution of claim 12 in the present invention. A person having ordinary skill in the art can not obtain the technical solution of claim 12 without creative work. Therefore, claim 12 is allowable.

As per claims 3-4:

As stated above, independent claim 1 complies with the requirements of novelty and non-obviousness. Thus, Applicant respectfully submits that dependent claims 3-4 are also allowable.

As per claims 8-10:

As stated above, independent claim 6 complies with the requirements of novelty and non-obviousness. Thus, Applicant respectfully submits that dependent claims 8-10 are also allowable.

As per claim 19:

As stated above, independent claim 16 complies with the requirements of novelty and non-obviousness. Thus, Applicant respectfully submits that dependent claim 19 is also allowable.

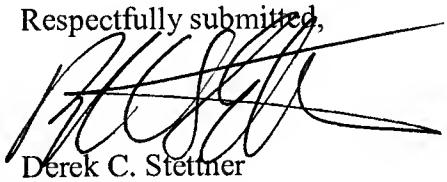
As per claim 21:

As stated above, independent claim 16 complies with the requirements of non-obviousness. Claim 21 comprises all the elements of claim 16, 17, 18, 19 or 20. Thus, reasons similar to those supporting the patentability of claim 16 above, Li fails to serve as the basis on which technical teaching is brought to the technical solution of claim 21. Therefore, claim 21 is allowable.

Conclusion

In light of the above, Applicant believe that the application is in condition for allowance and respectfully request that a timely Notice of Allowance be issued in this case. The undersigned is available for telephone consultation during normal business hours.

Respectfully submitted,



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